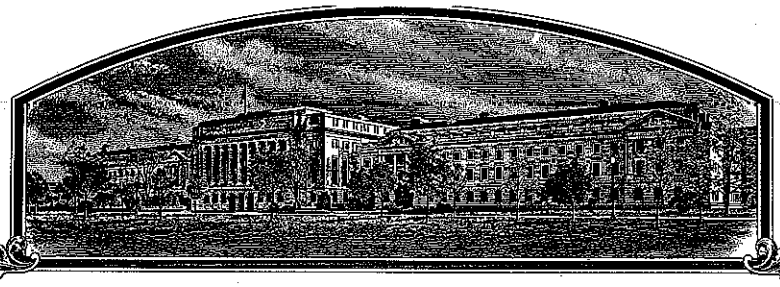
200400293

No.



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pennington Seeds, Inc. and Rutgers, The State University of New Jersey

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC NISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR G IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE POSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PRO THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

FESCUE, TALL

'Rebel IV'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of Washington, D.C. this twenty-ninth day of November, in the year two thousand and seven.*

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Pennington Seeds, Inc., The State University of New Jersey
~~KRH Seed Company~~ and Rutgers ~~University~~
(BT: 9/27/2007)

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
BR4, R4

3. VARIETY NAME
Rebel IV

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
~~1699 Buford Blvd~~ 270 Harsard Avenue
~~Winston-Salem, NC 27114-5087~~ Lebanon, OR 97355
(BT: 9/27/2007)

5. TELEPHONE *(Include area code)*
(541) 451-5261
~~(336) 744-2600~~

6. FAX *(Include area code)*
(541) 451-5221
~~(336) 768-6143~~

FOR OFFICIAL USE ONLY

PVPO NUMBER
200400293

FILING DATE
August 12, 2004

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
LLC

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
NC

9. DATE OF INCORPORATION
7-13-00

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

V.G. Lehman
811 Mountain River Dr.
Lebanon, OR 97355

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 3652
DATE 8/12/2004

CERTIFICATION FEE:
$ 768.00
DATE 10/22/2007

11. TELEPHONE *(Include area code)*
(541) 451-~~1847~~ 1210

12. FAX *(Include area code)*
(541) 451-1847

13. E-MAIL
vlehman@aol.com

14. CROP KIND *(Common Name)*
tall fescue

15. GENUS AND SPECIES NAME OF CROP
Festuca arundinacea

16. FAMILY NAME *(Botanical)*
Graminae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☑ NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? *(OPTIONAL)*
☐ YES ☑ NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. ☑ Exhibit A. Origin and Breeding History of the Variety
b. ☑ Exhibit B. Statement of Distinctness
c. ☑ Exhibit C. Objective Description of Variety
d. ☑ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☑ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☑ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 21 and 22 below)* ☑ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
☑ YES ☐ NO
IF YES, WHICH CLASSES? ☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☑ YES ☐ NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS
2 FOUNDATION 2 REGISTERED 2 CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☒ YES ☐ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☑ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

25. The owner(s) declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Kenneth R. Budd		Keith R. Cooper	
NAME *(Please print or type)*		NAME *(Please print or type)*	
Kenneth R. Budd			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Owner	1-21-04	Acting Executive Dean of Agriculture and Natural Resources	July 29, 2004

(See reverse for instructions and information collection burden statement)

ST-470 (04-03) designed by the Plant Variety Protection Office using Word 2002.

INSTRUCTIONS

#200400293

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $3,652 ($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

ITEM

19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

23. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

Feb 2004 in the US

24. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

Origin and Breeding History of R-4 Tall Fescue

R-4 tall fescue (*Festuca arundinacea* Schreb.) is a semi-dwarf, medium low-growing, dark green, medium-fine-leaved, turf-type tall fescue selected from the maternal progenies of 47 clones. R-4 was selected for high seed yield, medium-high density, dark-green color, semi-dwarf growth habit, improved rust resistance and medium-early maturity.

Twenty-four percent of the maternal germplasm of R-4 traces to plants selected from or related to Shenandoah II. Fifteen percent of the maternal germplasm traces to a few plants selected from the University of Georgia in 1977. Four percent of the maternal germplasm traces to plants selected from or related to Adam's Valley. Another four percent trace to plants selected from or related to Rebel II. Two percent of the maternal germplasm traces to plants selected from or related to Chieftan. Another two percent of the maternal germplasm traces to a population used in the development of Tomahawk. Another two percent traces to plants selected from or related to Amigo. The remaining 47 percent trace to plants selected from Maryland, Georgia, Oklahoma and Mississippi and underwent numerous cycles of population improvement. This parental germplasm traces its origin to plants selected from old turfs of the United States in a germplasm collection program initiated in 1962, to plants selected from or related to Rebel tall fescue (Funk et al., 1981). Attractive clones were selected from old turfs in Birmingham, AL; Athens, Atlanta, and Millegeville, GA; Preston, ID; Baltimore, MD; Bayonne, Jersey City, Elizabeth, Princeton, and Cape May, NJ; eastern North Carolina; Philadelphia, PA; Nashville, TN; Lexington, KY; Cincinnati, OH Dallas, TX; and northern Mississippi. The tall fescue plants selected from old turfs were of unknown origin. All were large patches of turf surviving in stressful environments indicating that they had persisted and developed over a period of many years.

A few hundred attractive, turf-type plants were collected and established in spaced-plant nurseries and/or frequently mowed clonal evaluation trials at Rutgers University. All but a few dozen of the most promising plants were quickly discarded. The best selections were very different from any tall fescue variety in existence at the time of collection. They produced lower-growing turfs with finer leaves, greater density, darker color, and greater tolerance of close mowing.

The most promising plants were identified by their persistence and appearance in old turfs and their performance in spaced-plant nurseries, mowed clonal evaluation tests, and single-plant progeny trails under turf maintenance. Intercrosses of the best performing plants were subjected to varying cycles of phenotypic and genotypic selection depending on their date of collection. New sources of germplasm were added to the breeding program as it became available from the continuing collection program. Each cycle of selection showed continued progress in producing lower-growing, darker green, attractive plants with improved turf performance scores. Selection was also effective in maintaining high seed yields, and good stress tolerance. Substantial progress was made in developing tall fescues with finer leaves, a lower growth profile, increased persistence under close mowing, and increased density.

Large numbers of single-plant progenies were seeded in turf evaluation trials at the Plant Science Research Farm at Adelphia, NJ in 1995, 1996, 1997 and 1998. The plants selected for progeny evaluation were selected from spaced-plant nurseries at Adelphia following varying cycles of phenotypic and genotypic selection of germplasm selected from old turfs and germplasm selected from or related to Rebel tall fescue.

Following ~~the~~ a period of brown patch disease in 1999, a total of 6150 tillers were (10/31/1107) selected from the best performing single-plant progeny turf plots from the 1995, 1996, 1997 and 1998 tall fescue test at Adelphia. One hundred and forty-five single-plot progenies were selected from 510 plots from 8 different populations from the 1995 test, 585 plots from 9 different populations in the 1996 test, 1055 plots from 10 different

populations from the 1997 test and 635 plots from 9 different populations from the 1998 test. Selection was based on performance records as well as appearance at the time the plants were selected from these progeny plots. Selection of plants from each progeny was based on an attractive dark green color, medium-fine leaves, abundant tillering, and medium-high turf density. These plants were established in greenhouse flats prior to their transfer to a 3060 spaced-plant nursery in the fall of 1999. In the spring of 2000, 75% of this nursery was rogued, prior to anthesis, for disease susceptibility, non-uniform growth habit, poor seed yield potential and light green color. Approximately 765 plants were left to open-pollinate in this nursery. Fifty-one plants with medium-early maturity, similar growth habit and improved rust resistance were harvested from this nursery. One turf plot of each plant was established in the fall of 2000. In addition, these 51 clones were vegetatively propagated to 48 plants used to establish an isolated replicated polycross nursery in fall of 2000. In the spring of 2001, four clones in the nursery were eliminated due to poor turf quality in turf plots. The remaining 47 plants were allowed to interpollinate and approximately 90% of these plants were harvested as R-4 breeder seed. These plants produced approximately 35 pounds of breeder seed. Replicated turf plots of R-4 were established at Adelphia in the fall of 2001 and entered in the 2001 National Tall Fescue test to be tested throughout the country. Sixteen pounds of breeder seed was sent to Budd Seeds Co. for foundation and certified seed increase.

References

1. Buckner, Robert C., Jerrell B. Powell, and Rod V. Frakes. 1979. Historical Development, in Buckner, Robert C., and Lowell P. Bush (editors) Tall Fescue. Agronomy Monograph 20. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Inc., Publishers. Madison, Wisconsin pages 1-8.

2. Funk, C.R., R.E. Engel, W.K. Dickson, and R.H. Hurley. 1981. Registration of Rebel tall fescue. Crop Sci. 21:632.

Statement of Stability:

No objectionable off-type plants or variants have been observed in the reproduction or multiplication of Rebel IV. Rebel IV is a stable and uniform variety.

Exhibit B. Statement of distinctness

Rebel IV is distinct from all other tall fescue varieties by a combination of turf and morphological measurements. Rebel IV is most similar to Rebel Sentry. Rebel IV has a panicle length that is shorter than Rebel Sentry. (Tables 1-2, Exhibit D).
(ST: 9/27/07 per applicant's authorization)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY PROGRAM
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(TALL & MEADOW FESCUES)

OBJECTIVE DESCRIPTION OF VARIETY
TALL & MEADOW FESCUES
(*Festuca* spp.)

#200400293

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Pennington Seed, Inc. and Rutgers, The State University of New Jersey (BT: 9/27/2007)	R4, BR4	Rebel IV

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)
270 Hansard Avenue; ~~V. G. Lehman, 811 Mountain River Dr.,~~ Lebanon, OR 97355
(BT: 9/27/2007)

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PVPO NUMBER
#200400293

Place the appropriate number that describes the varietal characteristics of this variety in the boxes below. Use leading zeros when necessary (e.g. 089). Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characteristics marked with an asterisk * are characteristics which should be recorded.

* 1. SPECIES: (With comparison varieties, use varieties within the species of the application variety)

___1__ 1 = *F. arundinacea* (Tall)

Turf Types

1 = Kentucky 31 2 = Rebel 3 = Olympic 4 = Bonanza 5 = Arid 6 = Rebel II

7 = Shortstop 8 = Silverado 9 = Rebel Jr. 10 = Mini Mustang 11 = Crewcut 12 = Bonsai

Forage Types

20 = Kentucky 31 21 = Martin 22 = Forager 23 = Mozark

24 = Kenhy 25 = AU Triumph 26 = Fawn 27 = Cajun

_____ 2 = *F. pratensis* (Meadow)

30 = Admira 31 = Beaumont 32 = Comtessa 33 = Ensign 34 = Trader

* 2. CYTOLOGY:

_____ Chromosome Number

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

___2_Transition Zone __2___West ___2__ Northeast_____ Other (Specify):_____

* 4. MATURITY: (Date First Headed, 10% of Panicle Emergence)

___7__ Maturity Class 1 = Very early ( ) 2 = AU Triumph 3 = Early (Fawn) 4 = K31, Kenhy 5 = Medium (Rebel)

4. MATURITY: (continued)

6 = Bonanza 7 = Late (Silverado) 8 = ( ) 9 = Very late #200400293

Date Headed _____16 May 2002_____ Location _____Lebanon, OR

_____ Days earlier than _____

Maturity same as

Shortstop __ } Comparison Variety

___8 Days later than ___1_

---

* 5. MATURE PLANT HEIGHT CM: (Average of 100 culms from crown to top of panicle, if panicle is nodding, straighten)

95.9 cm Height (year=2003)

_38.2 cm Shorter than _1_

Height same as ___ } Comparison Variety

__ __.__ cm Taller than ___

* INTERNODE LENGTH CM: (First internode subtending the flag leaf)

18.1_ cm Internode Length

__4__ cm Shorter than 1__

Length same as _ } Comparison Variety

__ __.__ cm Longer than ___

* HEIGHT AT EAR EMERGENCE CM: (Flag leaf height from crown to flag leaf collar)

__51.0__ cm Height

__ __.__ cm Shorter than ___

Height same as 7__ } Comparison Variety

__ __.__ cm Taller than ___

---

* 6. GROWTH HABIT: (Mature Plants)

_9_ 1 = Prostrate ( ) 3 = Semiprostrate ( ) 5 = Horizontal ( )

7 = Semierect (Rebel) 9 = Erect (Mini Mustang)

---

* 7. RHIZOMES (Psuedo):

__ __.__ mm Length __1_1 = Absent ( ) 2 = Rare (Rebel) 3 = Common ( )

---

* 8. LEAF BLADE: (Tiller leaves/ turf color)

*__8 Color: 1 = Light green ( ) 3 = Medium light green ( ) 5 = Green ( )

7 = Medium dark green ( ) 9 = Very dark green ( )

___7=Rebel Jr___ Specify rating of comparison variety

*__1_ Anthocyanin: 1 = Absent ( ) 9 = Present ( )

*_1__ Basal Hairs: 1 = Absent ( ) 9 = Present ( )

*_9__ Margins: 1 = Smooth ( ) 5 = Semi-rough ( ) 9 = Rough ( )

8. LEAF BLADE: (continued)

#200400293

*__7_Width Class: 1 = Very coarse ( ) 3 = Coarse ( ) 5 = Medium ( )
7 = Fine ( ) 9 = Very Fine ( )

* TILLER LEAF LENGTH CM: (First leaf subtending the flag leaf)

__22.7__ cm Tiller Leaf Length

6.5 cm Shorter than 6
Length same as ___
__.__ cm Taller than ___
} Comparison Variety

* TILLER LEAF WIDTH MM:

_5.9_ mm Tiller Leaf Width

0.9 mm Narrower than 6
Width same as ___
__.__ mm Longer than ___
} Comparison Variety

FLAG LEAF LENGTH CM:

_14.5__ cm Flag Leaf Length

3.9 cm Shorter than 6
Length same as ___
__.__ cm Longer than ___
} Comparison Variety

FLAG LEAF WIDTH MM:

_5.4 mm Flag Leaf Width

_0.3__ mm Narrower than_6__
Width same as ___
__.__ mm Wider than ___
} Comparison Variety

* 9. LEAF SHEATH: (Basal Portion)

*__ Anthocyanin (seedling): 1 = Absent (K31) 9 = Present ( )

*_9__ Auricle Hairiness: 1 = Absent ( ) 9 = Present ( )

* 10. PANICLE: (At seed maturity except where noted.)

95% ovate; 5% narrow tapering
*_5__ Shape: 1 = Narrow-tapering ( ) 5 = Ovate ( ) 7 = Oblong ( ) 9 = Other (specify)

84% open; 16% intermediate
*__7_ Type: 1 = Compact (appressed) 5 = Intermediate ( ) 7 = Open ( ) 9 = Other (specify)

*_9__ Orientation: 1 = Nodding ( ) 9 = Erect ( ) 90% erect; 10% semi-erect

*__9_ Branch Pubescence: 1 = Glabrous ( ) 9 = Pubescent ( )

*_6__ Anther Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green
4 = Purplish 5 = Reddish 6= Other (Specify) 6= yellow

* 5__ Glume Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green
4 = Purplish 5 = Reddish 6= Other (Specify)

*__20.4 (year=2003)__ cm Panicle Length (from base to tip, if nodding, straighten; after anthesis)

_3.5_ cm Shorter than 7__
Length same as ___
__.__ cm Longer than ___
} Comparison Variety

* 11. SEED: (With Lemma & Pelea)

#200400293

*_2.1330_ _ _ _ _g per 1000 seeds

0.3973_g Less than Rebel Pro

Weight same as ___

___ ___ ___ mg More than ___

} Comparison Variety

PALEA: (Keels or Margins)

_1__ Hairs: 1 = Absent ( ) 5 = Short (Missouri 96) 9 = Long ( )

LEMMA:

_1__ Hairs: 1 = Absent (Kenhy) 5 = Several ( ) 9 = Many (Missouri 96)

_6.44_ mm Lemma Length (Mature) _1.44__ mm Lemma Width

__ mm Shorter than ___

Length same as _9_

__.__ mm Longer than ___

} Comparison Variety

_____ mm Narrower than __

Width same as ___

_0.10__ mm Wider than_12_

} Comparison Variety

*AWNS: __1_ AWNS: 1 = Absent ( ) 9 = Present (Falcon) ___0_% Plants with awns

__.__ mm Awn length (Of those present.)

__.__ mm Shorter than ___

Length same as ___

__.__ mm Longer than ___

} Comparison Variety

12. DISEASE, INSECT, AND NEMATODE REACTION: (0= Not Tested 1= Least Resistant 9= Most Resistant)

0___ Melting-out *Drechslera poae*

_0__ Leaf Spot *D. siccans*

_0__ Net Blotch *D. dictyoides*

_6__ Brown Patch *Rhizoctonia solani*

__0_ C. Leaf Spot *Cercospora fectucae*

_0__ Pink Snow Mold *Gerlachia nivalis*

_0__ Silver Top *F. tricinctum, F. roseum*

_0__ Blind Seed *Gloeotinia temulenta*

_0__ Dollar Spot *Lanzia, Mollerdiscus* spp.

4___ Stem Rust *Puccinia graminis*

_0__ T. Blight *Typhula incarnata*

_0__ Pythium Blight *Pythium* spp.

_0__ Powdery Mildew *Erysiphe graminis*

_0__ Crown Rust *Puccinia coronata*

___ Other Disease _____

___ Other Insect _____

___ Other Nematode _____

13. ENVIRONMENTAL STRESS

__5_ Drought Stress 1 = Susceptible ( ) 5 = Tolerant ( )9 = Resistant ( ) other: DLSD=6

_0__ Shade Stress 1 = Susceptible ( ) 5 = Tolerant ( )9 = Resistant ( ) 0=not tested

13. ENVIRONMENTAL STRESS: (continued)

_6_ Winter Stress 1 = Susceptible ( ) 5 = Tolerant ( )9 = Resistant ( )

#200400293

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics, indicate the degree of resemblance with the following scale:

1 = Application variety is less than comparison variety 2 = Same as 3 = More than, better, greater, darker, etc.

Character	Varieties	Rating	Character	Varieties	Rating
Leaf Width	1, less than Rebel Sentry		Leaf Color	3, darker than Barlexas	
Panicle Color			Panicle Shape		
Seed Size			Cold Injury		
Winter Color			Heat		
Disease					

* 15. EXPERIMENTAL: Give a brief summary of the experimental design utilized to collect the data used on this form. Cultural conditions, number of plants measured and plant spacing must be specified.
Randomized complete block, 3 replications, 20 spaced plants per replication were planted on 3 foot centers, minimum of 15 were to be measured; Cultural conditions were standard for seed production in the Pacific Northwest, with planting in the Fall and measured the following spring.

Table 1. Plant characters, tall fescue, 1 year old plants, Lebanon, OR 2002.

Variety	Panicle length cm	Flag leaf width mm	Flag leaf length cm	Plant height cm	Height at ear cm	Date Heading
Rebel IV	14.7	4.3	10.61	86.7	35.3	136
Shelby	15.5	5.4	10.32	80.2	30.4	134
R4-D	18.8	5.2	11.95	92.6	39.2	136
Rebel 3D	20.3	8.7	11.75	95.9	39.5	136
Rebel II	20.6	5.1	13.10	99.6	45.6	138
Bonanza	25.0	5.7	16.69	101.6	45.4	138
Rebel Jr	18.7	5.6	12.53	81.3	34.4	137
Crewcut	19.2	5.0	13.44	98.1	40.7	134
Silverado	16.8	5.2	13.05	82.5	31.6	137
MiniMustang	18.8	5.4	12.49	96.5	40.8	135
Ky31	24.1	5.8	17.01	119.3	59.5	128
Bonsai	14.7	4.4	8.01	79.3	30.8	141
Shortstop	19.2	5.6	13.64	102.4	42.6	136
5301	16.4	4.2	11.29	85.7	34.7	137
Rebel Sentry	18.4	5.4	12.34	90.3	38.4	135
Shelby	15.5	5.4	10.32	80.2	30.4	134
Rebel Pro	17.2	5.3	11.24	89.8	36.4	134
Terradyne	16.0	5.0	9.55	80.1	29.9	136
MCN	16.3	4.8	9.58	83.8	34.2	137
Rebel III	22.1	6.3	15.47	107.8	46.5	135
LSD (p=0.05)	2.03	1.44	2.62	7.80	4.20	2

Date of heading value= Day of year

Note: Measurements from three replications, 15 plants planted per replication.

Table 2.	Plant characters, two year old plants, tall fescue, Lebanon, OR, measured 2003.										
		Plant	**Panicle**	**internode**	**Height at**	**Flag**	**Flag**	**Tiller**	**Tiller**	**Date**	**Date**
	Variety	**Height**	**length**	**length**	**ear**	**Length**	**Width**	**Length**	**Width**	**heading**	**anthesis**
		cm	**cm**	**cm**	**cm**	**cm**	**mm**	**cm**	**cm**		
	Rebel IV	95.9	20.4	18.1	51.0	14.5	5.4	22.7	5.9	122.7	149.0
	Shelby	96.7	22.5	16.5	45.8	14.2	5.5	21.0	6.0	122.3	149.3
	R4-D	108.5	25.0	18.9	55.9	18.4	6.4	25.7	6.8	123.0	150.7
	Rebel 3D	114.6	26.9	18.9	61.4	17.8	6.6	27.7	7.1	119.3	148.7
	Rebel II	120.3	26.3	21.6	63.7	17.9	6.0	28.5	6.8	120.3	149.7
	Bonanza	116.2	26.6	20.0	60.8	18.4	5.7	29.2	6.8	123.0	151.0
	Rebel Jr	95.8	24.1	17.5	55.4	17.7	6.4	26.3	7.2	122.7	150.0
	Crewcut	113.8	21.5	18.6	53.1	14.4	5.0	22.7	6.0	121.7	151.0
	Silverado	95.8	22.9	16.7	51.0	16.3	5.3	24.0	5.8	121.3	150.7
	MiniMustang	103.5	23.9	17.5	54.6	17.8	5.5	24.4	5.9	121.7	150.7
	Ky31	134.1	29.1	22.1	73.5	18.0	6.4	29.6	7.9	108.3	145.7
	Bonsai	97.2	19.3	18.8	51.8	11.6	4.6	18.7	5.3	125.3	152.0
	Shortstop	105.6	22.7	17.9	52.6	17.5	5.7	24.6	6.4	124.0	151.7
	5301	92.3	21.4	16.4	48.4	14.6	4.9	23.7	6.0	123.0	148.7
	Rebel Sentry	97.0	22.6	16.1	49.1	15.2	5.4	21.8	6.2	121.3	149.7
	Shelby	96.7	22.5	16.5	45.8	14.2	5.5	21.0	6.0	122.3	149.3
	Rebel Pro	92.8	22.5	17.4	51.6	13.6	4.9	21.6	5.8	119.3	149.0
	Terradyne	91.2	19.5	16.8	46.5	12.8	4.8	19.5	5.4	123.3	150.0
	MCN	96.6	22.6	18.5	53.5	14.5	5.1	23.8	5.9	121.7	149.7
	Rebel III	114.0	27.0	19.5	56.8	19.1	6.4	28.0	6.8	119.3	150.3
LSD (p=0.05)		10.90	2.60	2.86	7.70	2.70	0.72	3.07	0.68	3.59	1.60
Note:	heading, for example, 108=18 April										
	Anthesis, for example, 149=29 May										

Table 3.Turf ratings for tall fescue, Richardson, TX, 2002.				
2002 Richardson, TX Data				
Cultivar	**Quality**	**Percent green cover**	**Color**	**Texture**
(BT: 1/11/2007) (~~BR4~~ 'Rebel IV'	5.3	80.5	7.7	7.0
Kentucky 31 E+	5.4	89.2	6.8	6.0
Rebel Sentry	5.7	85.7	7.8	6.3
Tarheel	5.5	83.9	7.6	6.0
Falcon II	5.8	85.7	7.3	6.3
LSD (p=0.05)	0.3	7.0	0.4	0.7
scale 1-9, 9=best; 182 entries in trial				

Table 4.Turf ratings for tall fescue, Corvallis, OR, 2002.					
2002 Corvallis, OR Data					
Cultivar	**Quality**	**Texture**	**Color**	**Attractiveness**	**Percent green cover**
Rebel IV	5.0	6.3	4.7	5.3	95.3
Rebel II	2.7	3.0	2.3	2.7	95.7
Rebel 3D	4.0	3.7	3.3	3.7	94.0
Rebel Sentry	4.7	5.0	4.3	4.7	95.0
LSD (p= 0.05)	1.7	1.9	1.2	0.8	NS
scale 1-9, 9=best; 8 entries in trial; attractiveness includes brightness rating					
Approximately 190 lines in trial.					

Table 5. Quality of selected tall fescues from NTEP, NJ1 and NC1 locations, 2002 data.							
		NJ1		NC1			
Variety		Quality		Quality			
Rebel IV		6.6		6.6			
Five Point (MCN)		5.5		6.6			
Rebel Sentry		5.1		6.6			
Bonsai		3.4		4.9			
Wolfpack		4.8		6			
LSD (p=0.05).		0.8		0.7			

REPRODUCE LOCALLY. Include form number and edition date on all reproductions. FORM APPROVED - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
~~Pennington Seeds, Inc.~~ and ~~Rutgers University~~ The State University of New Jersey (ST: 9/27/2007)	BR4, R4 (ST: 3/6/2006)	Rebel IV
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(Include area code)*	**6. FAX** *(Include area code)*
~~811 Mountain River Dr. Lebanon, OR 97355~~ 270 Hansard Avenue Lebanon, OR 97355	(541) 451-~~1847~~ 5261	(541) 451-~~1847~~ 5221
(ST: 9/27/2007)	**7. PVPO NUMBER** #200400293	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. [X] YES [ ] NO

10. Is the applicant the original owner? [X] YES [ ] NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
[ ] YES [ ] NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
[ ] YES [ ] NO If no, give name of country

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

Rutgers assembled germplasm and contracted with KRB Seed for final breeding and development followed by marketing and sales.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.